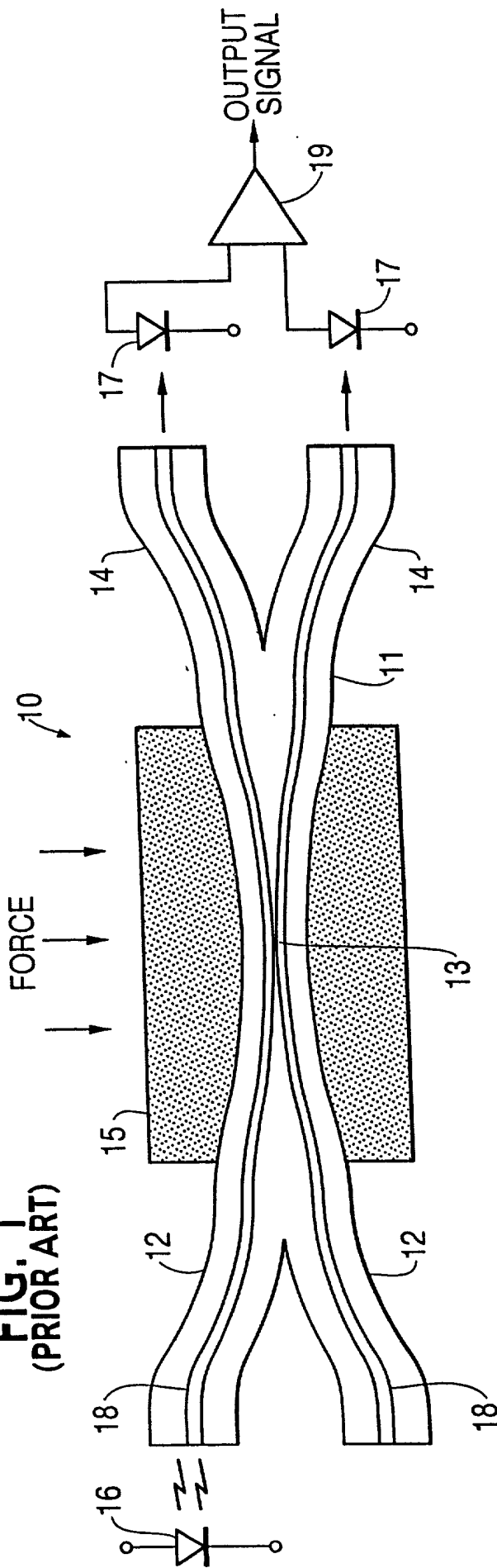
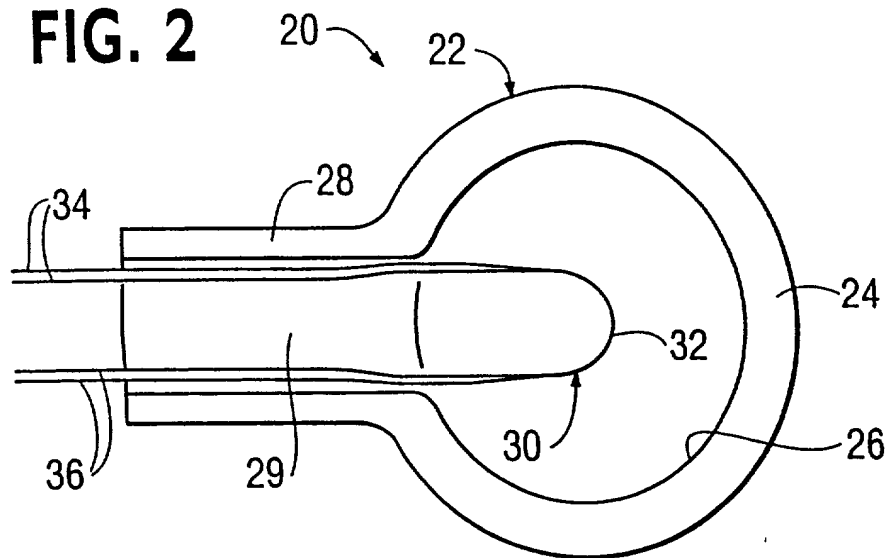


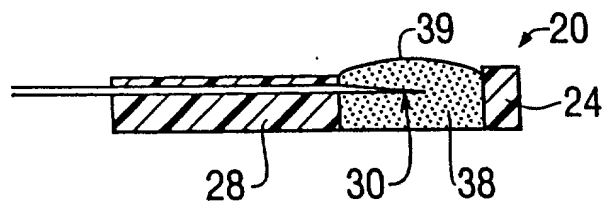
**FIG. 1**  
(PRIOR ART)



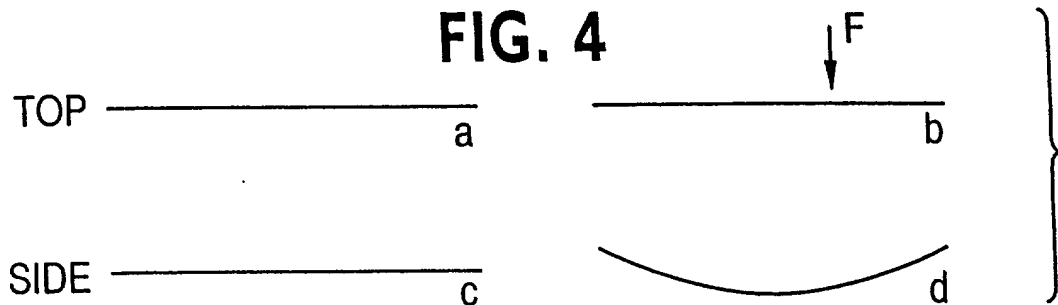
**FIG. 2**



**FIG. 3**



**FIG. 4**



**FIG. 5**

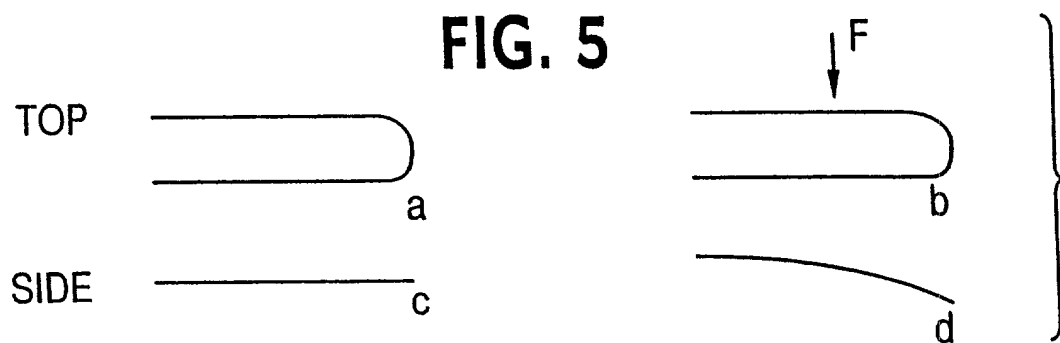


FIG. 6

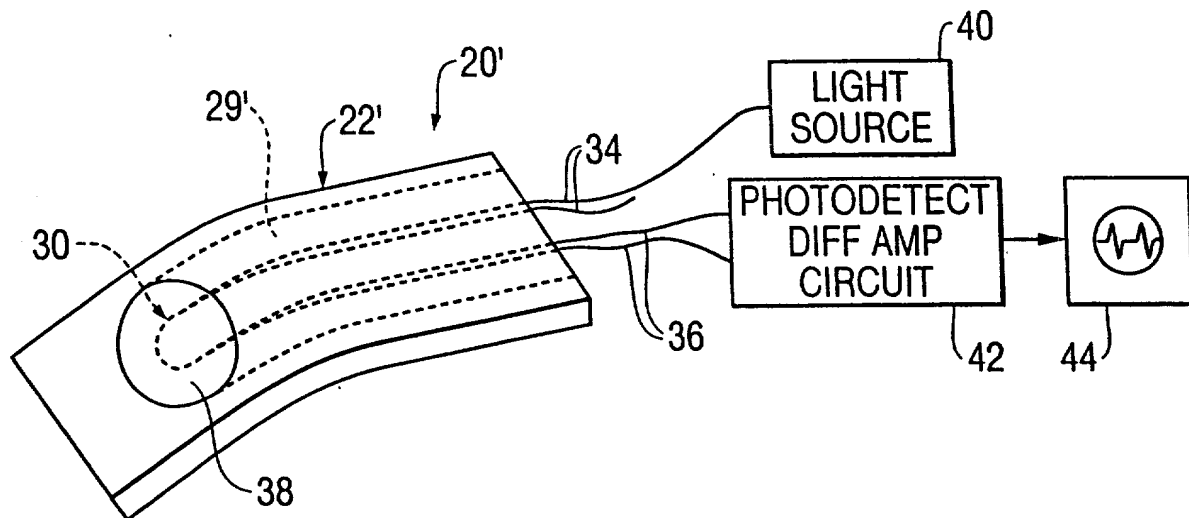
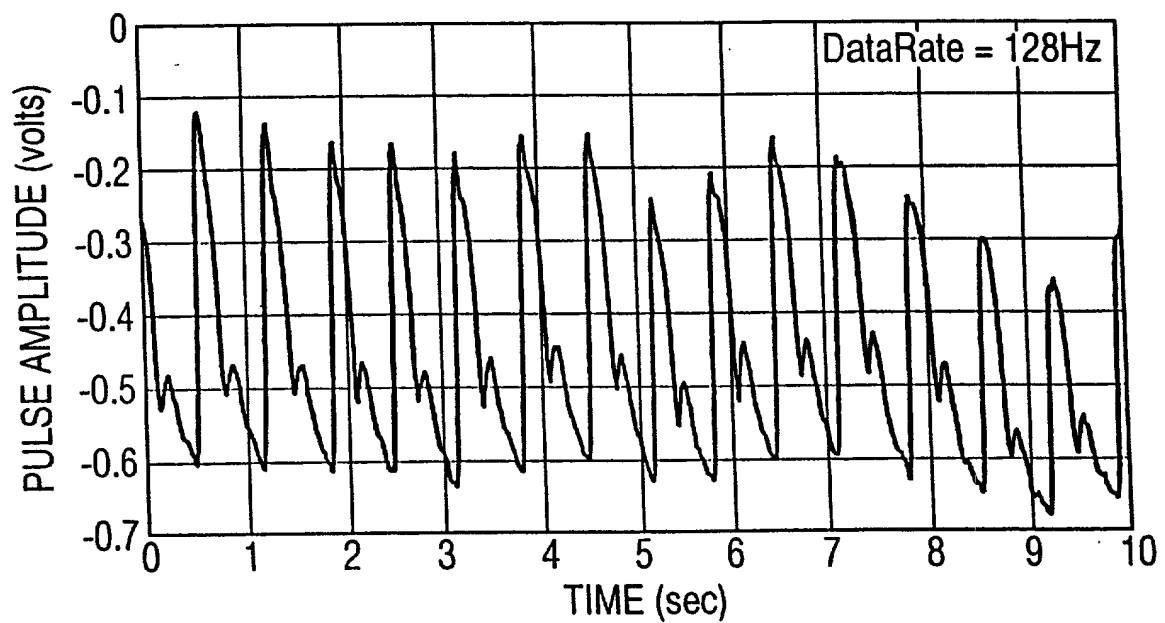
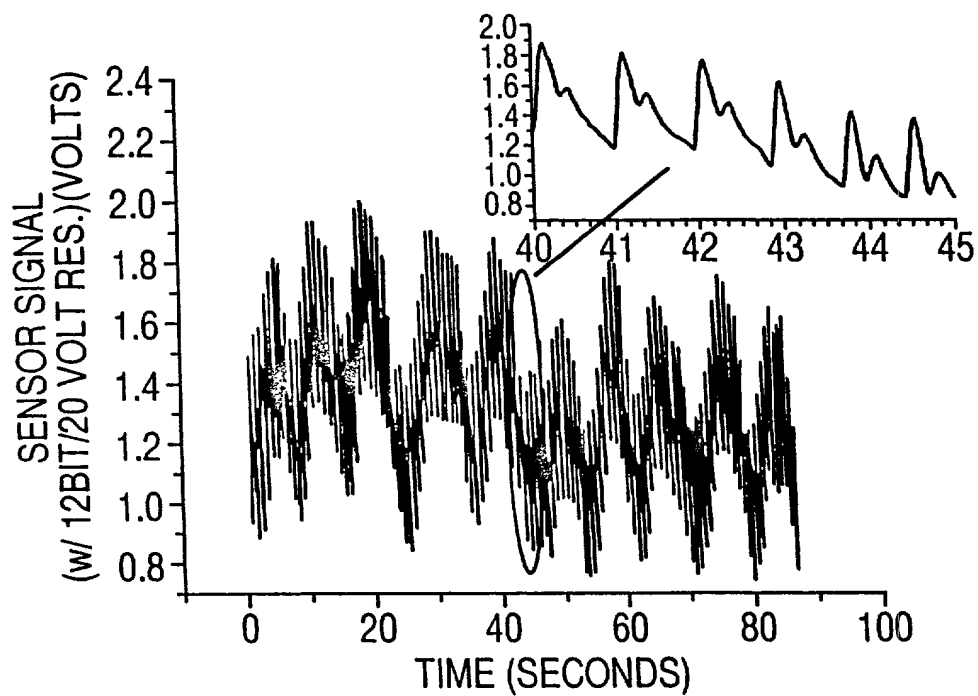


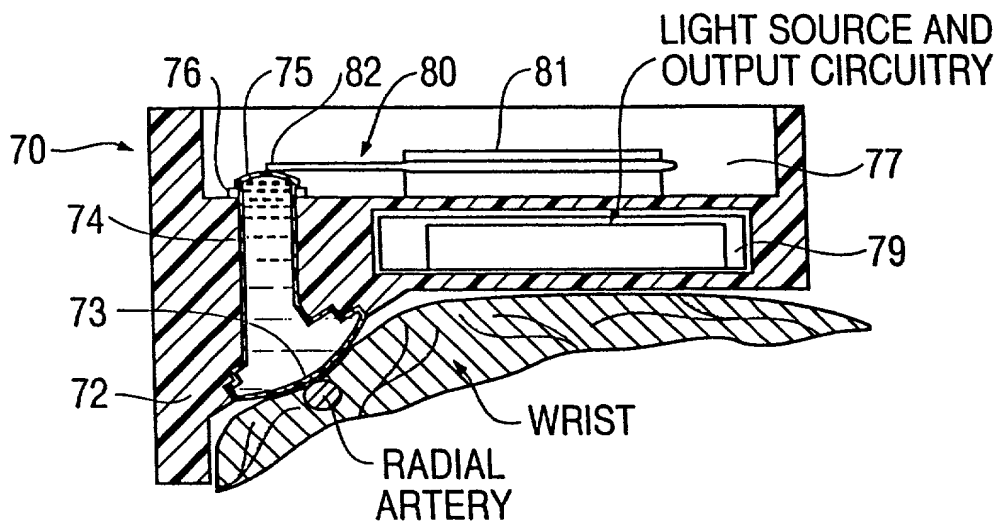
FIG. 7



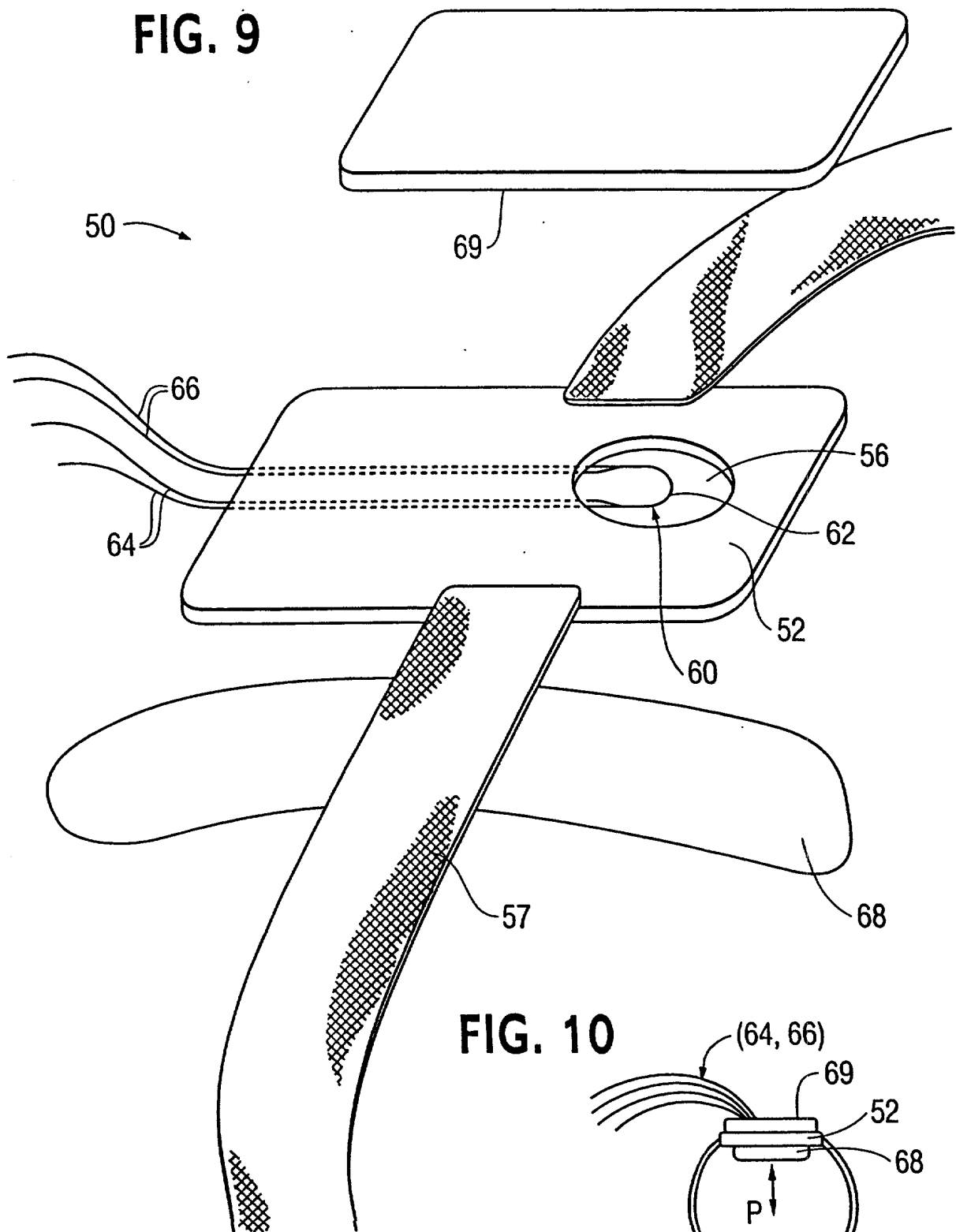
**FIG. 8**



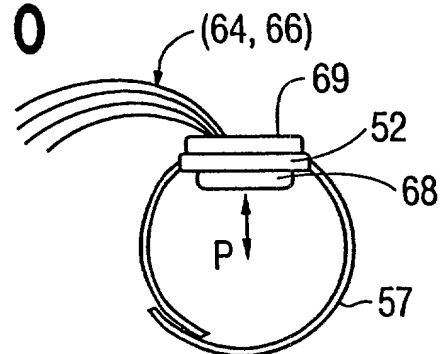
**FIG. 11**



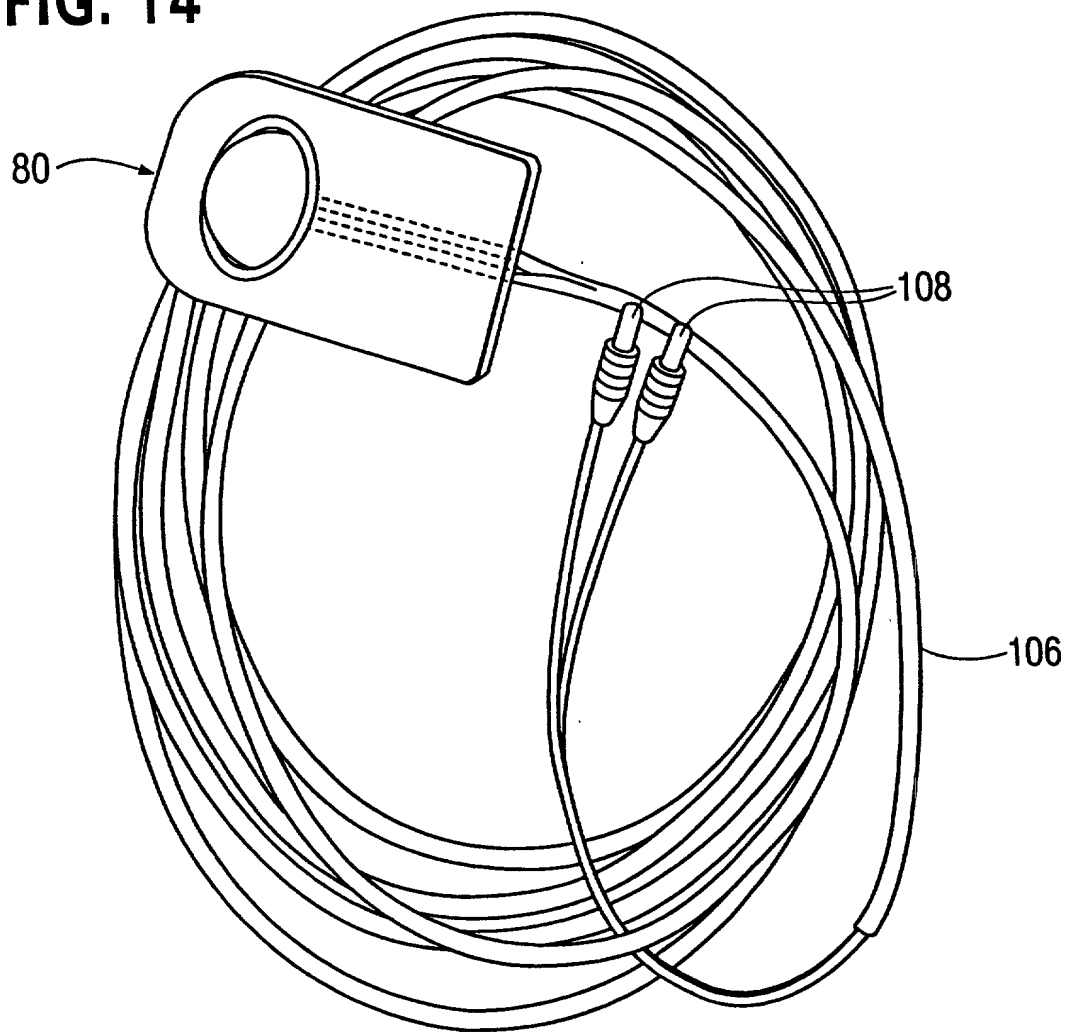
**FIG. 9**



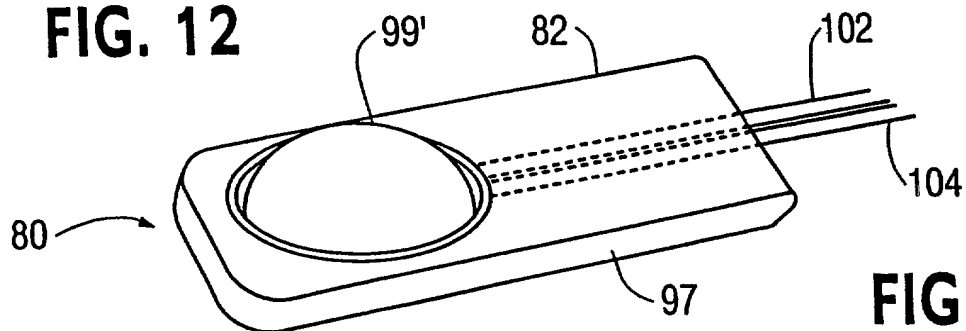
**FIG. 10**



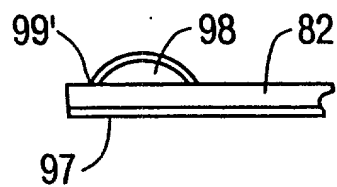
**FIG. 14**



**FIG. 12**



**FIG. 13**



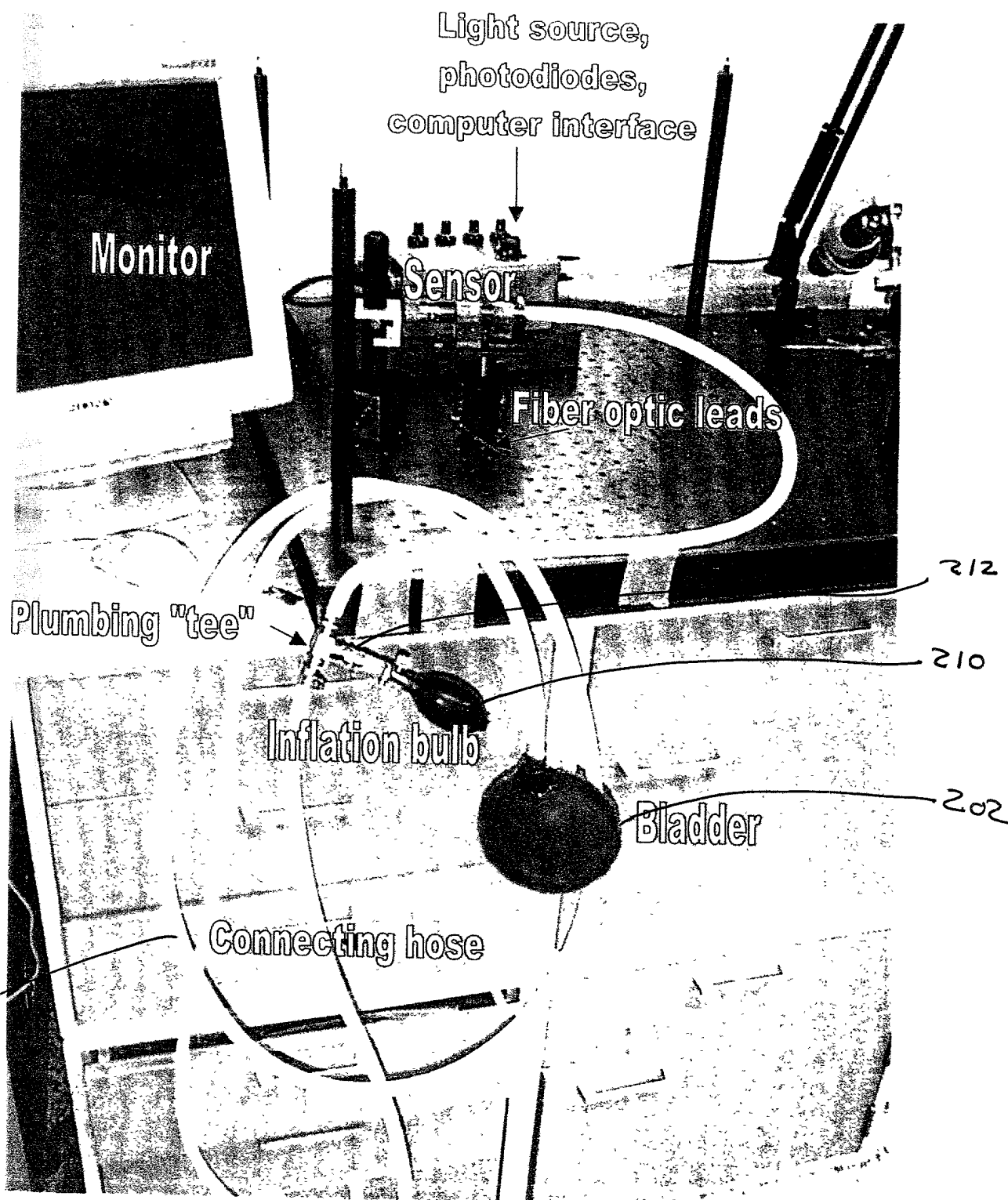


Figure 1 Complete system showing component parts



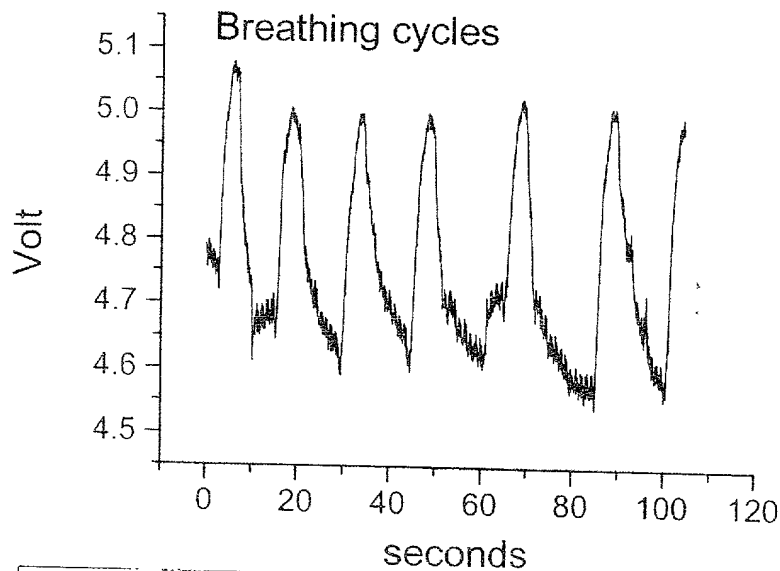
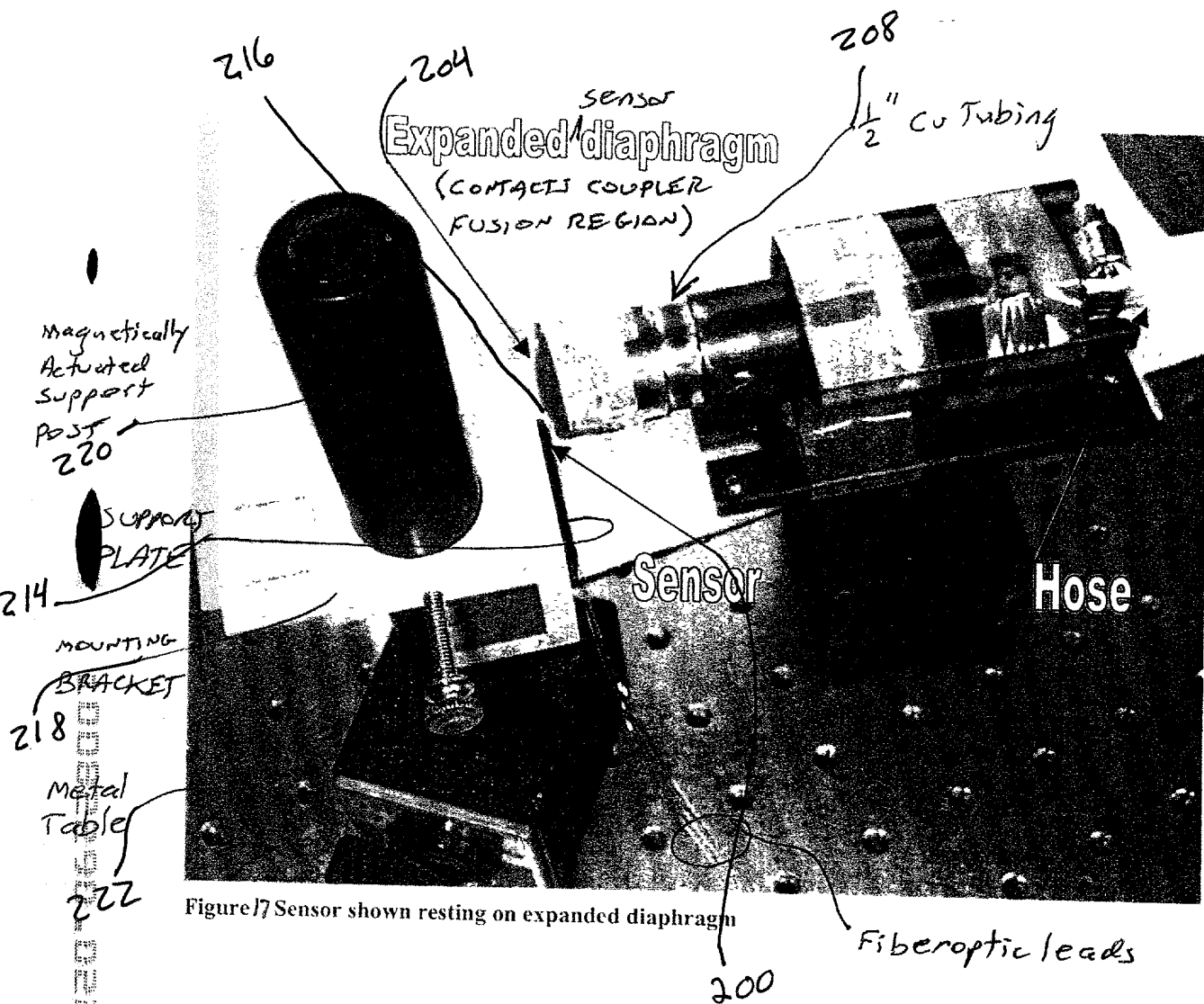


Figure 19 Heartbeat cycles showing regular breathing

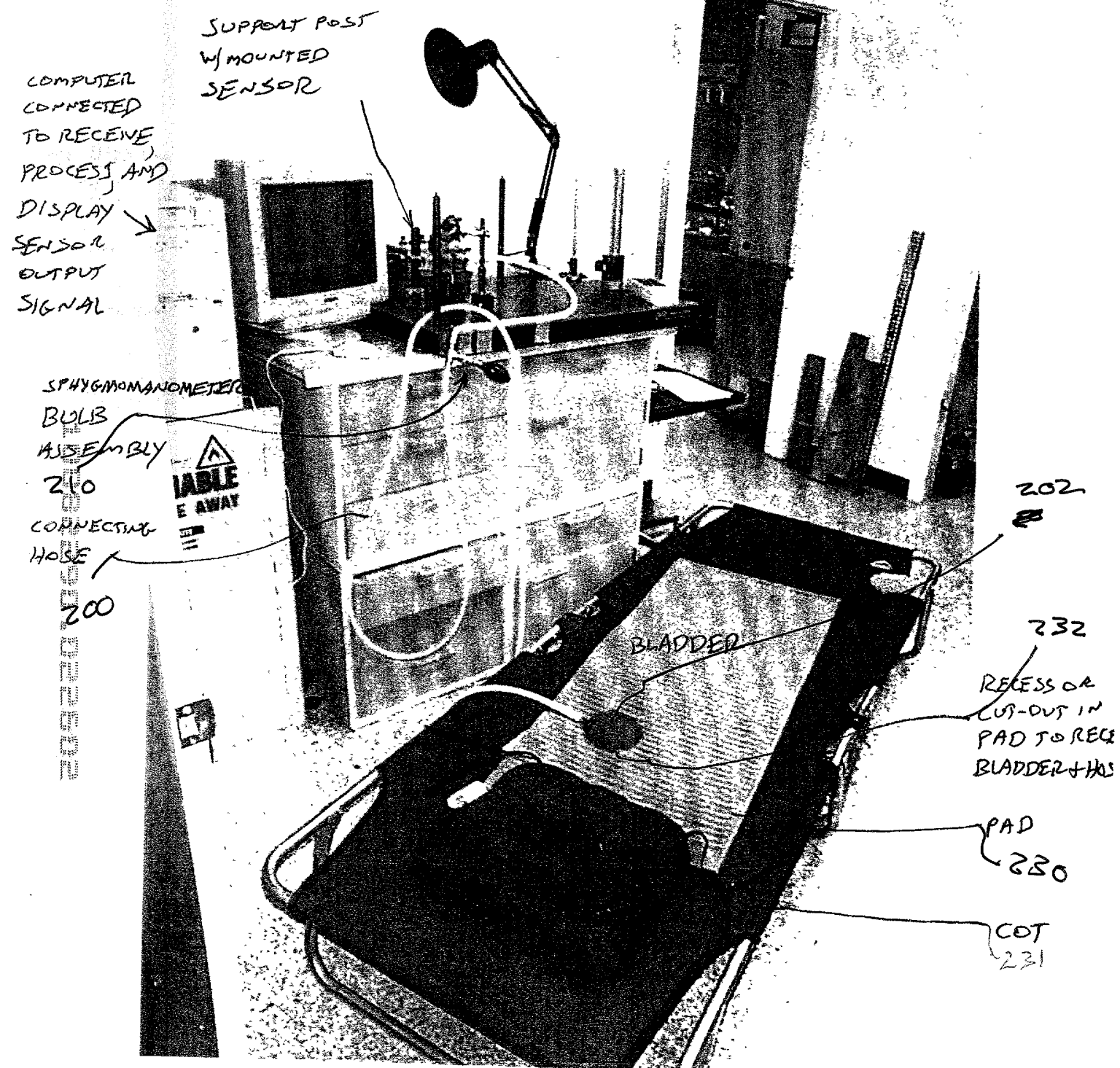


Figure 1B View of cot and bladder

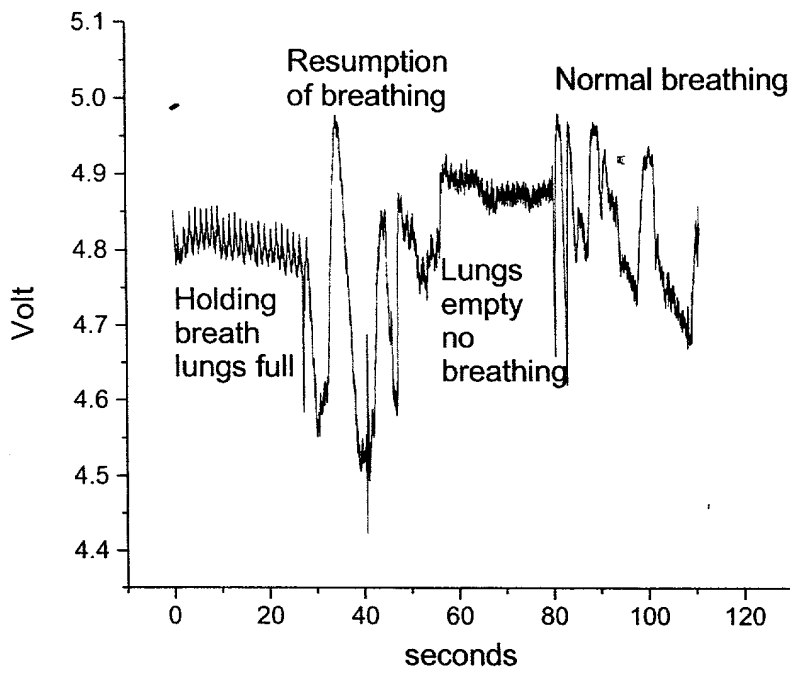


Figure 20 Various breathing patterns

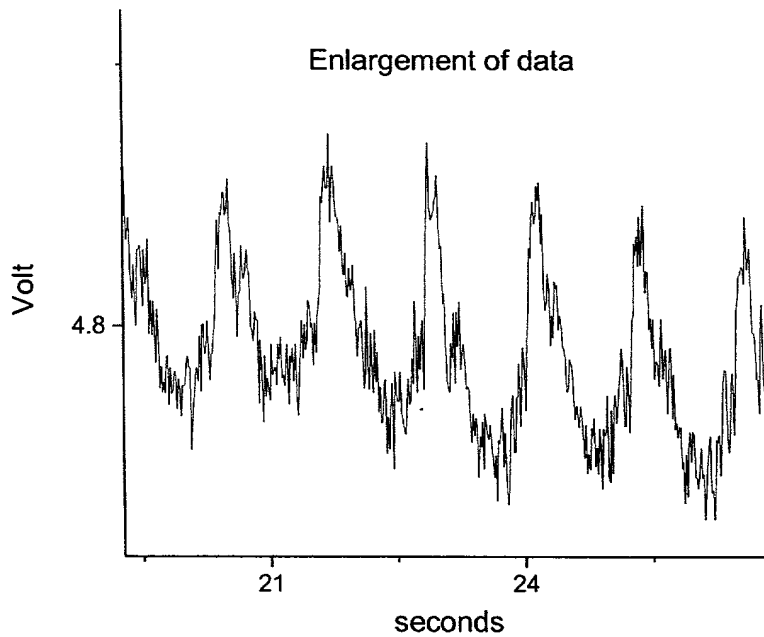


Figure 21 Heartbeat pattern showing through data in figure 20. Time scales correspond.

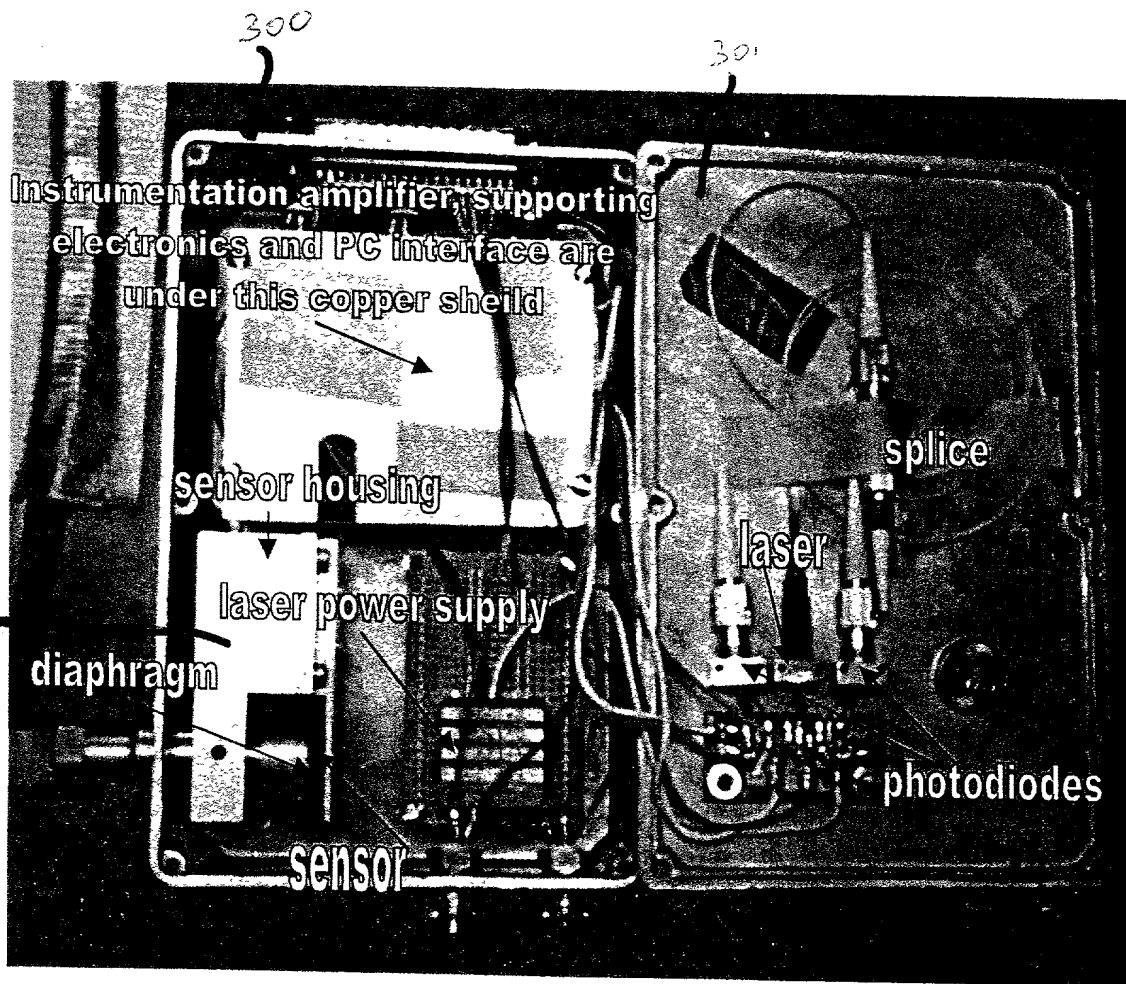


Figure 22 The system box including mounted sensor, laser, photodiodes, instrumentation amplifier, and computer interface

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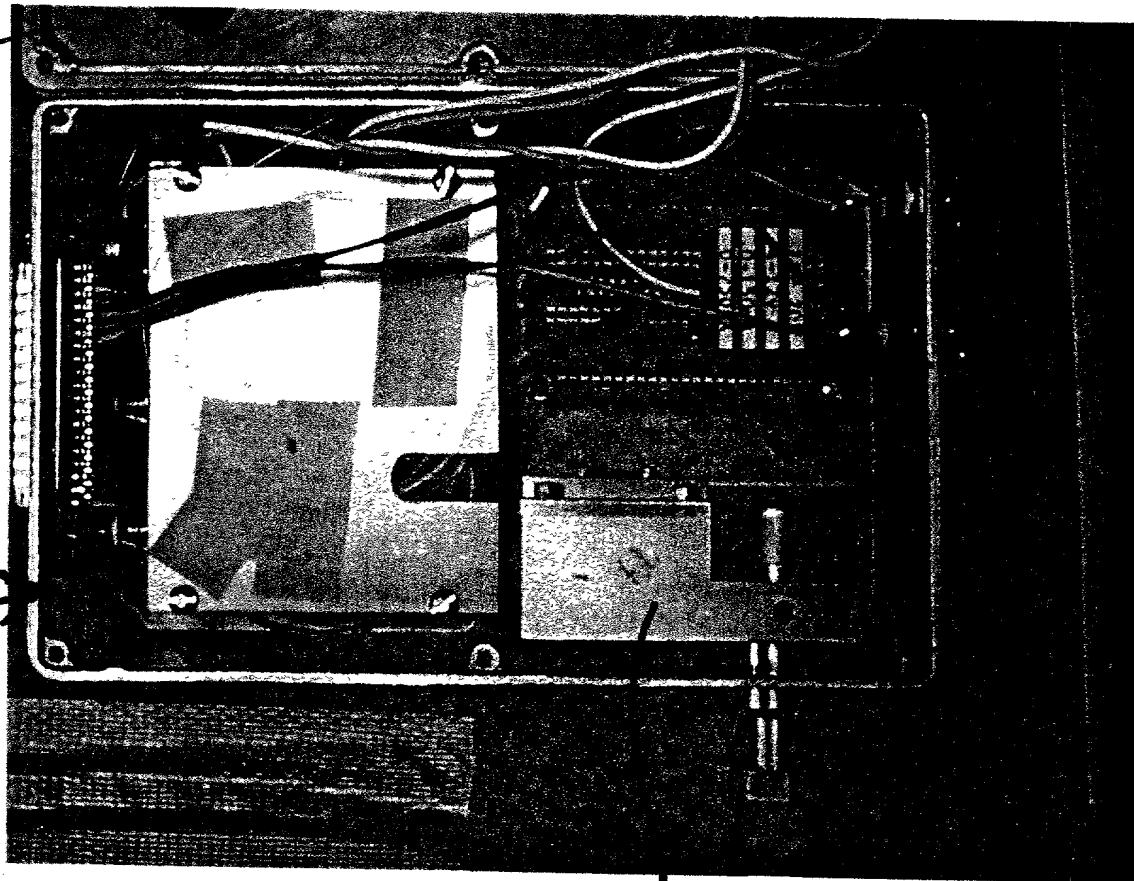


Figure 23 Close up view of box shown in figure 22.

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Mechanical stop to  
prevent over-stressing  
of the sensor due to  
excessive inflation of  
the diaphragm

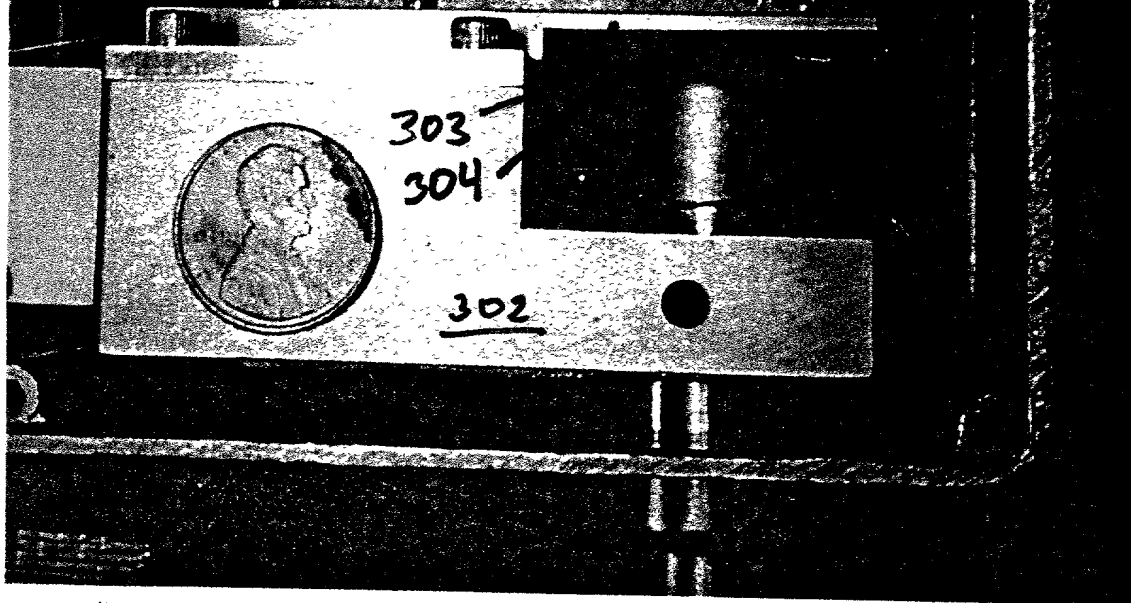


Figure 24 Mounted sensor and diaphragm

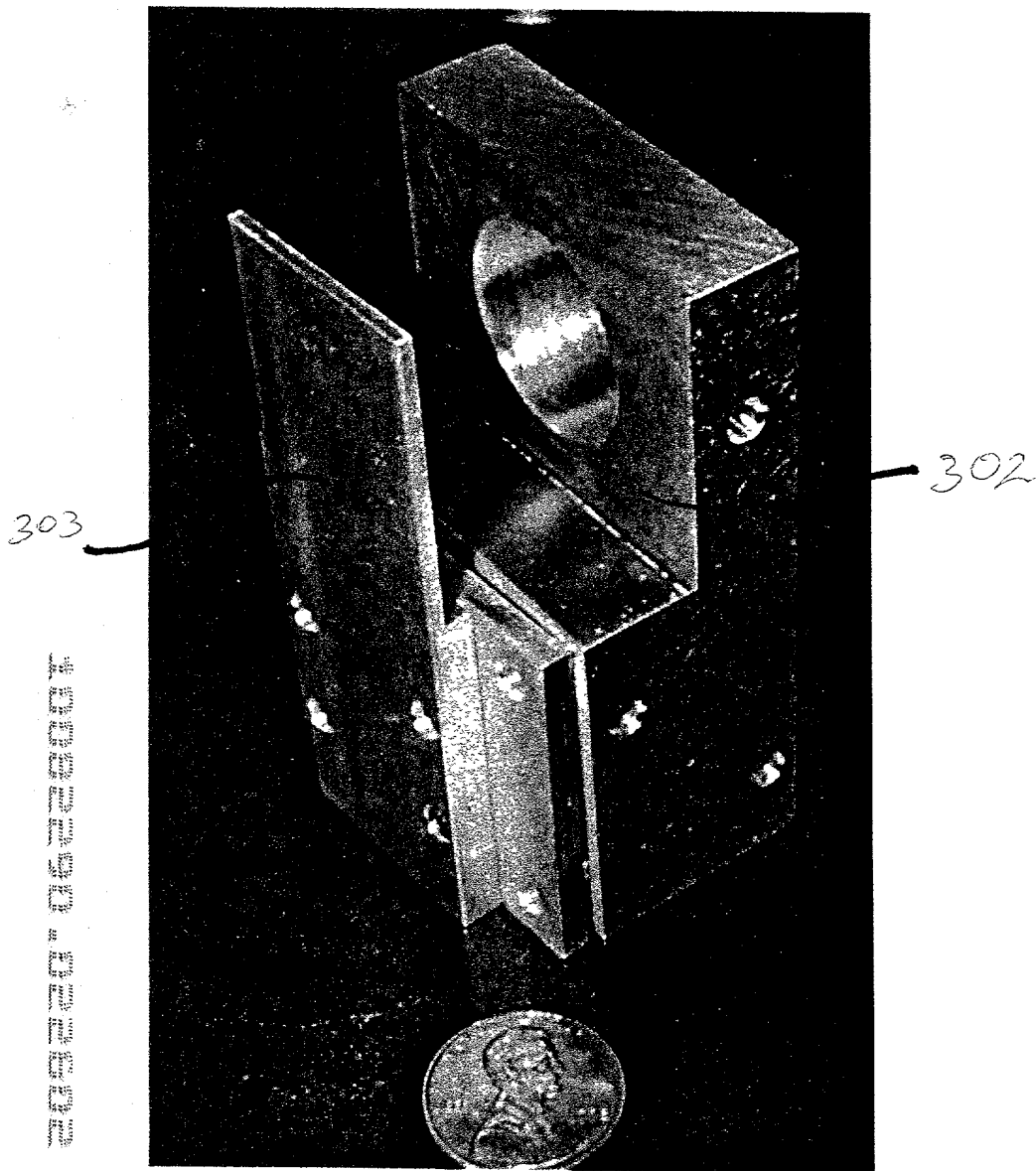


Figure 1 Sensor mount